ATTACHMENT 2

FAUQUIER COUNTY
TECHNICAL REVIEW

APPLICATION FOR CO-LOCATION
SE02-M-15 UPPERVILLE VOLUNTEER FIRE COMPANY-SPRINT
(ATC # 1007-44)

Submitted By:

ATLANTIC TECHNOLOGY CONSULTANTS, INC.
A Member of *The Atlantic Group of Companies*

February 11, 2002

BACKROUND:

APC Realty & Equipment Company d/b/a Sprint PCS is proposing to add a co-locator antenna array within a 100-foot "stealth" communications flagpole proposed by the Upperville Volunteer Fire Company (UVFC). The subject property is located at 9167 John S. Mosby Highway (Route 50) in Upperville. The new array of antennas will be mounted at the 95-foot level of the 100-foot UVFC proposed communications flagpole and is designed to provide service in the Route 50 corridor. The structure is designed to support three (3) co-locators (service providers) within the cylinder of the pole. In addition, the UVFC plans to co-locate a siren and a 911 whip antenna on the exterior of the pole at heights still to be determined.

STRUCTURAL:

When antennas are added to an existing structure, the loading on tower members is changed. A qualified engineering firm must examine such changes to ensure the structure is capable of supporting the proposed equipment. An analysis verifying the ability of the structure to support the proposed equipment was not provided.

ENVIRONMENTAL IMPACTS:

The National Environmental Policy Act of 1969 (NEPA), delineated in Title 47 of the Code of Federal Regulations, Part 1, Subpart I, sections 1.1301-1.1319 requires federal agencies to incorporate environmental considerations into their decision-making process. As a licensing agency, the Federal Communication Commission (FCC) requires all licensees to consider the potential environmental effects from its construction of antenna support structures and disclose those effects in an Environmental Assessment (EA) that must be filed with the FCC for review. In absence of a NEPA report, it is presumed that this study has not been performed.

NIER ANALYSIS:

FCC rules (Bulletin OET-65) require that a licensee proposing to add a transmitter to an existing structure is responsible for a radio frequency (RF) exposure analysis of the cumulative effect of all transmitters on the site. Appropriate steps, including signage, must be taken to protect public

safety personnel, the public, and workers from exposures in accordance with federal guidelines. The applicant contends that antennae emissions comply with all applicable EPA and FCC emission requirements; however, no documented evidence in support of this contention is presented.

HISTORIC IMPACTS:

In addition to environmental considerations, Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires that State Historic Preservation Offices (SHPO) and the President's Advisory Council on Historic Preservation be given a reasonable opportunity to comment on all federal undertakings with the potential to affect historic properties. Prior to construction, the licensee is required to submit to the SHPO a detail description of the project, a listing of historic resources and a discussion of any measures being undertaken to mitigate impacts (if any) on historic resources. Upon receipt, the SHPO has thirty (30) days to review and respond. All agencies with authority to permit construction are required to consider the SHPO response in its decision-making process. In the absence of SHPO review, the impact on historic resources that may exist in the area is not known.

AVIATION CONSIDERATIONS:

The Federal Aviation Administration (FAA) requires that an air hazard determination be performed for all new structures, unless categorically excluded under FAA rules and regulations. This study examines the potential impact the proposed structure may have on safe air navigation. An unofficial air hazard study has been completed by Airspace Safety Analysis Corporation (ASAC) and determined that Notice of Proposed Construction or Alteration is not required for this structure. ASAC reports that proposed Construction or Alteration that does not require notice to the FAA normally does not require obstruction marking and/or lighting.

PROPAGATION ANALYSIS:

The primary objective for this site is to provide service in the Route 50 corridor through Upperville and the surrounding area. The proposed site is part of a network of sites Sprint has planned or developed in the corridor. Sprint is located on the water tank in the Town of Middleburg and has recently proposed a "by-right" site located off Crenshaw Road, east of the UVFC site. A comprehensive survey of the surrounding area failed to identify any viable structure suitable for co-location in lieu of the proposed structure.

Sprint contends that an antenna height of 95 feet is needed in order to provide contiguous coverage with its existing and planned network of sites. Several scenarios were analyzed utilizing a combination of existing and proposed structures. Exhibit 2 shows the composite coverage of Sprint's Middleburg, Crenshaw, and UVFC site at a rad center elevation of 95 feet. Exhibit 3 shows the composite coverage of the Middleburg, Crenshaw, and UVFC site at a rad center elevation of 80 feet. Areas shaded in green and yellow (minimum –89 dBm) represent acceptable coverage with the areas in green representing the strongest communication back to the tower. Areas shaded gray represent "spotty" or unreliable coverage.

Projected coverage in the corridor is relatively unaffected at a rad center elevation of 80 feet compared with the proposed location of 95 feet. Sprint would be able to maintain connectivity with its planned and existing sites to the east. There is a nominal decrease in coverage area to the west. It should be noted that there are no known proposed Sprint sites west of Upperville to

which this site would connect. Any signal loss to the west could be compensated for by strategic placement of any future planned site in the corridor west of UVFC.

RECOMMENDATIONS:

This analysis considered the RF requirements of the applicant without consideration to UVFC's pending application for a building permit. Based upon Sprint's existing and planned network of sites in the corridor, an 80-foot installation would provide adequate coverage and sufficiently achieve Sprint's coverage objectives as expressed.

Any approval to permit co-location of Sprint's antennas, regardless of height, should be made contingent upon the following:

1. A structural analysis should be performed in accordance with ANSI EIA/TIA-222-F (or latest revision thereof) prior to installation of the proposed equipment. Any restrictions, limitations and/or recommendations as they relate to the proposed installation must be strongly adhered to in the final design and installation.

2. As a FCC licensee, the applicant (or structure owner) is required to perform a NEPA study. In the absence of such a study, the impact on environmental resources is not known. The potential impact on environmental resources should be considered in any decision concerning approval.

3. Documented evidence demonstrating compliance with FCC rules regarding RF exposure should be presented. Based upon the results, appropriate signs need to be posted and/or other actions taken pursuant to FCC rules.

4. As a FCC licensee, the applicant (or structure owner) is required to perform a Section 106 study. In the absence of such a study, the impact on environmental resources is not known. The potential impact on historic resources should be considered in any decision concerning approval.

5. Consultant air space studies are useful tools to evaluate the potential impacts on safe air navigation. However, the final authority with respect to such determinations resides with the FAA. Therefore, an official FAA air hazard determination should be obtained to ensure no hazard exists as result of the proposed construction.

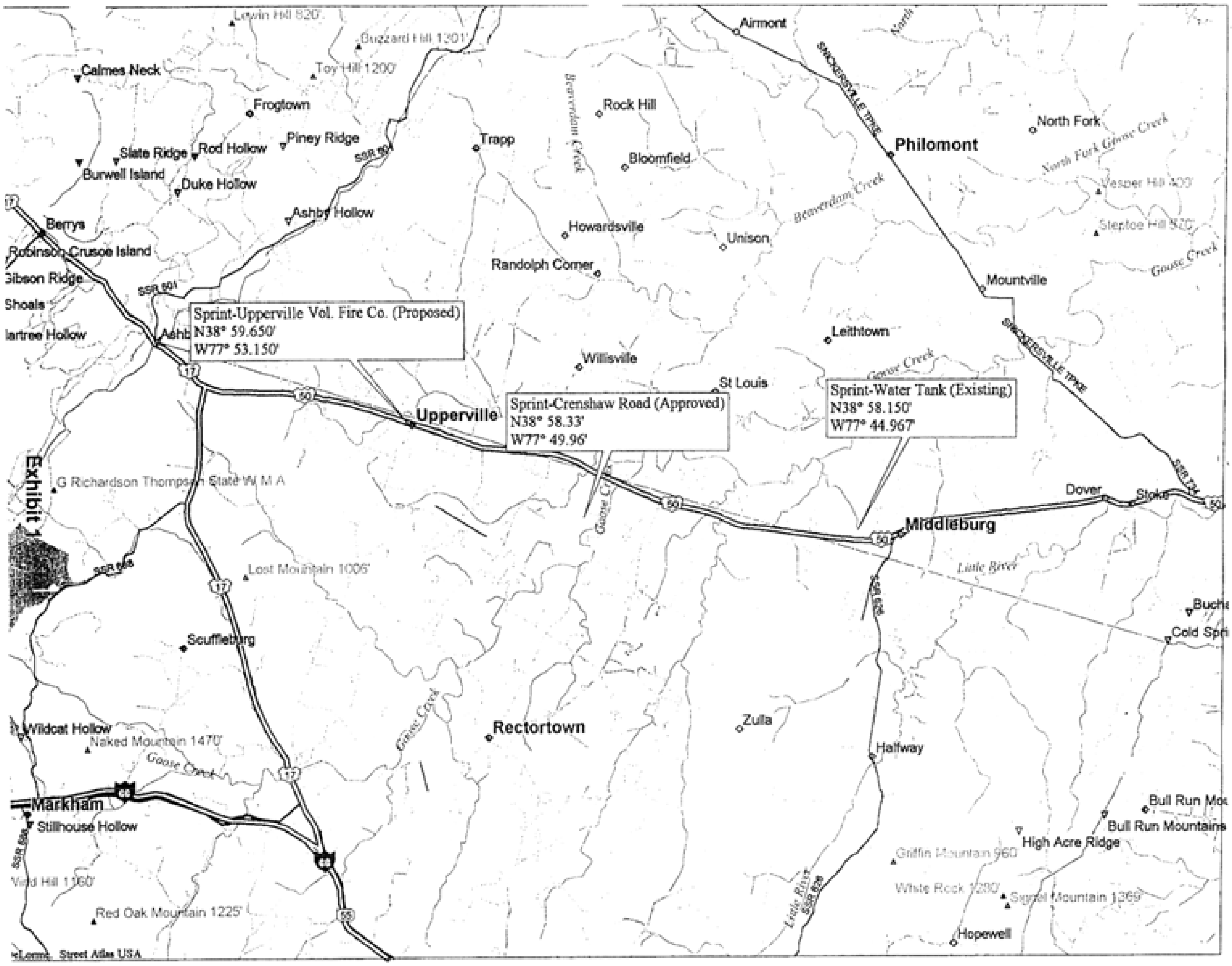
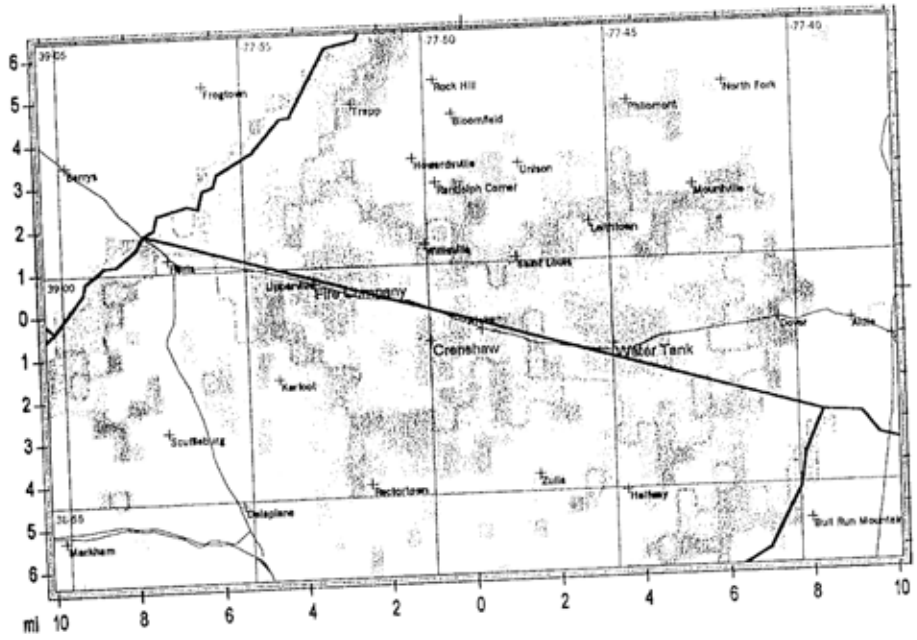

Sprint-Upperville Vol. Fire Co. (Proposed)
N38° 59.650'
W77° 53.150'
Sprint-Crenshaw Road (Approved)
N38° 58.33'
W77° 49.96'
Sprint-Water Tank (Existing)
N38° 58.150'
W77° 44.967'
Upperville
Middleburg
Philomont
Rectortown
Markham
Airmont
Rock Hill
Bloomfield
Trapp
Howardsville
Unison
Randolph Corner
Willisville
St Louis
Leithtown
Mountville
North Fork
Dover
Zulla
Halfway
Hopewell
Scuffleburg
Calmes Neck
Frogtown
Slate Ridge
Rod Hollow
Piney Ridge
Burwell Island
Duke Hollow
Ashby Hollow
Berrys
Robinson Crusoe Island
Shoals
Wildcat Hollow
Stillhouse Hollow
High Acre Ridge
Bull Run Mountains
G Richardson Thompson State W M A
Lost Mountain 1006'
Naked Mountain 1470'
Red Oak Mountain 1225'
Griffin Mountain 960'
White Rock 1280'
Toy Hill 1200'
Buzzard Hill 1301'
Goose Creek
Beaverdam Creek
Little River
SNICKERSVILLE TPKE
Street Atlas USA

Exhibit 1

Exhibit 2

Sprint-Upperville Vol. Fire Company



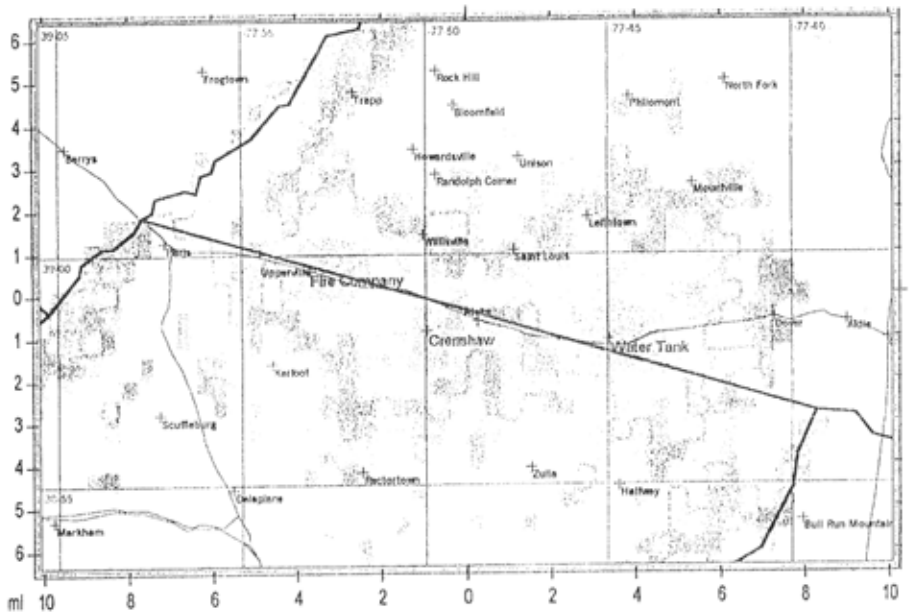
Composite Sprint Coverage w/ Proposed Flagpole @ 95 ft.

County Borders State Borders Highways Lat/Lon Grid

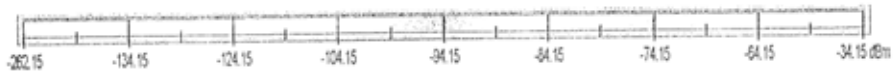
Map Scale: 1:216927 1" = 3.42 mi V|H Size: 12.77 x 20.17 mi

Exhibit 3

Sprint-Upperville Vol. Fire Company



Composite Sprint Coverage w/ Proposed Flagpole @ 80 ft.



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